

# Memo

Date: Thursday, November 20, 2014

Project: Infrastructure Financing Services: Water

To: Toby LaFrance, John Goodrich, Debbie Smith-Wagar

From: Joe Healy

Subject: Water Revenue Requirements Summary for Additional Rate Hike Scenario

Thank you for the opportunity to serve the City of Tigard (City). HDR is pleased to continue supporting the City with its water infrastructure financing needs.

## Introduction

On November 18, 2014, HDR presented water financial plan results to the City Council. In that presentation, the Council considered two rate revenue scenarios:

1. **Smoothed Rate Impact** – This scenario is based on the City’s capital projects to identify optimal amounts of new debt and rates to pay for projects while minimizing short-term rate impacts to the City’s customers.
2. **One-Time Rate Hike in 2015** – The City requested an analysis of the water financial forecast given a large rate adjustment in 2015, and holding future annual rate adjustments to approximately 2% or less.

The results of those two scenarios are summarized in the HDR memo dated Tuesday, October 21, 2014 with the subject line “Water Revenue Requirements Summary”. Each scenario assumes a large debt issuance in fiscal year (FY) 2015 and a smaller debt issuance in FY2019.<sup>1</sup>

During the City Council workshop on November 18, the Council showed interest in the rate hike alternative. However, the Council had not previously contemplated the possibility for an additional debt issuance in FY2019. At the end of the Council workshop, the Council asked City staff and HDR to examine an additional alternative:

3. **One-Time Rate Hike in 2015; no additional debt issuances after 2015** – The Council requested an analysis of the water financial forecast given a large rate adjustment in 2015, a large debt issuance in 2015 to finish the work of the Lake Oswego-Tigard Water Partnership, and 100% cash-financing future planned capital improvements.

This memorandum presents the results of this third rate revenue scenario. The scenario presented in this memorandum is based on the agreed upon CIP assumptions, budget numbers, and collective estimates of interest rates and escalation factors. The scenario raises

<sup>1</sup> In this analysis, FY2015 represents fiscal year ending in 2015, or FY2014-15.

sufficient rate revenue to meet the City's future revenue requirements<sup>2</sup>, maintain prudent reserve fund balances, and achieve target debt service coverage ratios.

## Water Revenue Requirements Assumptions

The primary financial inputs in this process were the City's accounting and billing records, capital plan, and budget. Provided below is a detailed discussion of the steps and key assumptions contained within the development of the City's water utility revenue requirement.

### Capital Improvements

Table 1 provides a summary of the City's CIP over the next seven years and totals over the 30-year projection period. In addition to the water supply costs of the Partnership, the City has a significant capital improvement program that includes water storage, pipelines, and other system improvements. All amounts include the effects of assumed cost escalation.<sup>3</sup> To improve visibility in years with actual expenditures, HDR shaded the zeroes in years with no projected expenditures.

**Table 1: CIP Summary (millions)**

Description	Fiscal Year Ending							2015-44 Totals
	2015	2016	2017	2018	2019	2020	2021	
Water Meter Replacement Program	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$10.7
Water Main Line Oversizing	0.2	0.2	0.2	0.2	0.2	0.2	0.2	8.0
Aquifer Storage & Recovery Well #3	0.3	0.0	0.0	0.0	3.6	0.0	0.0	3.8
Lake Oswego-Tigard Water Partnership	72.8	22.9	1.3	0.0	0.0	0.0	0.0	96.9
LO-Tigard Water Partnership Internal Expenses	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.6
Water Line Replacement Program	0.1	0.1	0.1	0.2	0.2	0.2	0.2	7.5
Fire Hydrant Replacement Program	0.2	0.1	0.1	0.1	0.1	0.1	0.1	5.4
Main Street/Waterline Replacement	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
New Water Source Systemwide Improvements	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.7
Pipeline Connecting 550 Zone to 530 Zone	0.0	0.0	0.0	0.0	2.5	0.0	0.0	2.5
Annual Fire Flow Improvement Allocation	0.1	0.1	0.1	0.1	0.1	0.1	0.1	4.8
Tigard HS Well Abandonment	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Barrows/Scholls Ferry 16" Line Extensions (River Road)	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Pacific Highway/Gaarde Utility Casing Bore Crossing	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Cach Reservoir and Pump Station Design	0.0	0.0	0.0	1.1	0.0	5.8	6.0	13.0
550 Pressure Zone Connection to Price Reservoir	0.3	1.8	0.0	0.0	0.0	0.0	0.0	2.0
Vehicles	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.4
<b>Totals</b>	<b>\$75.6</b>	<b>\$25.7</b>	<b>\$2.1</b>	<b>\$2.1</b>	<b>\$6.8</b>	<b>\$6.6</b>	<b>\$6.9</b>	<b>\$157.3</b>

### Debt Service Costs

The next component of Tigard's water revenue requirement is debt service. Debt service relates to the City's annual debt repayment obligations (principal and interest), incurred when capital projects are financed with long-term borrowing.

<sup>2</sup> Revenue requirements include cash-funded capital improvements, debt service, and operational expenses.

<sup>3</sup> Partnership project cost estimates already included assumed capital cost escalation. Tigard provided all other capital improvement plan costs using a FY2015 cost-basis. The assumed escalation rate for future costs began at 2.0% in FY2016, increasing by 0.5% annually to a maximum annual escalation rate of 4.0% in FY2020 and beyond.

## Existing Debt Service

Tigard is currently making repayments for two outstanding debt issues, revenue bonds issued in 2012 and ARRA debt. The City's annual debt service payments are scheduled at \$4.88 million in FY2015 and FY2016, and \$6.72 million annually thereafter through FY2032. The Series 2012 repayments of \$6.56 million annually are scheduled through FY2043, while the final payment on the ARRA debt is FY2033.

## Future Debt Service

Given the large expenditures related to the City's capital improvements program, HDR and the City anticipate the need for new debt financing in FY2015 (nearly \$40 million). For debt service related to future borrowing, HDR and the City assumed that the future debt issue would have a 5.0% interest rate and term to coincide with the final repayment of the Series 2012 debt. HDR and the City also assumed that new debt would be subject to the same debt service coverage (DSC) covenants as the City's existing debt.<sup>4</sup>

## Total Debt Service

By combining the City's existing debt service repayments with the projected additional debt service, HDR developed estimated debt repayments. Table 2 presents the next 20 years of annual debt service for the rate revenue scenario discussed in this memorandum. Note the significant increase in FY2017. This is due to an increase in the annual repayments on the Series 2012 debt and the assumed structuring of the anticipated FY2015 debt financing. The City's financial advisor suggested that the City will structure the new debt so that they may defer principal repayments for 2 years from the time the debt is issued. Therefore, interest-only payments are projected to occur in FY2015 and FY2016, with total repayments (principal and interest) for the FY2015 debt issuance forecasted to begin in FY2017.

Table 2: Annual Debt Service

Year	Annual DS*	Year	Annual DS*
FY2015	\$5.5	FY2025	\$9.4
FY2016	6.8	FY2026	9.4
FY2017	9.4	FY2027	9.4
FY2018	9.4	FY2028	9.4
FY2019	9.4	FY2029	9.4
FY2020	9.4	FY2030	9.4
FY2021	9.4	FY2031	9.4
FY2022	9.4	FY2032	9.4
FY2023	9.4	FY2033	9.4
FY2024	9.4	FY2034	9.2

\* Note: Projected costs rounded to millions.

Given the assumptions of this scenario, HDR and the City projected the structure of the future debt issue in a way that would provide for level annual debt repayments through FY2043 when combined with the currently scheduled repayments on existing debt.

<sup>4</sup> For a detailed discussion on debt service coverage, see the HDR memo dated Tuesday, October 21, 2014 with the subject line "Water Revenue Requirements Summary".

## Operations and Maintenance Costs

The City's budget O&M costs were used as a starting point for the O&M forecast. O&M costs were projected to escalate from FY2015 data at various annual rates, specific to line item. Based on the FY2015 budget assumptions and the cost escalation rates ranging from 2.5% to 4.0% annually (in most instances<sup>5</sup>), the City's total annual O&M costs are expected to increase from \$8.4 million in FY2013 to \$9.0 million in FY2016. In FY2017, the City expects a significant decrease in O&M costs as water from the Partnership replaces the City's current supply from the City of Portland.

The annual O&M cost projection is included in Table 3. Only the first 20 years of the projection period are included. It is assumed that costs will continue escalating in future years.

**Table 3: Total Annual O&M Costs** (millions)

Year	Annual O&M*	Year	Annual O&M*
FY2015	\$8.4	FY2025	\$9.2
FY2016	9.0	FY2026	9.6
FY2017	6.9	FY2027	9.9
FY2018	7.2	FY2028	10.3
FY2019	7.4	FY2029	10.7
FY2020	7.7	FY2030	11.0
FY2021	8.0	FY2031	11.5
FY2022	8.3	FY2032	11.9
FY2023	8.6	FY2033	12.3
FY2024	8.9	FY2034	12.8

\* Note: Projected costs include escalation.

## Forecast of Other Revenue

The City collects other revenue that offsets the revenue needed from customer rates. Other revenue includes non-rate revenue and system development charge collections.

### Non-Rate Revenue

For planning purposes, non-rate revenue includes minor amounts of miscellaneous sales and fees. Together, these line items amount to approximately \$165,000 in FY2015. This amount is projected to increase by 0.3% annually thereafter.

### System Development Charges

In FY2015, the City will receive approximately \$944,000 from water SDCs. For the duration of the forecast, the City and HDR forecasted future SDC collections conservatively. Future SDC collections were projected using the City's existing customer data and an assumed growth rate of 0.3% annually. Table 4 (next page) provides the projected SDC revenue. The City will collect more than the projected SDCs with the future development of River Terrace. However, until SDCs are actually collected from developers, HDR recommends that the City use the lower future SDC estimates as a matter of prudent financial planning for the purpose of funding capital projects and issuing bonds.

<sup>5</sup> Medical benefits were projected to increase at a rate of 6.65% annually.

Table 4: Total Annual SDC Revenue

Year	SDCs*	Year	SDCs*
FY2015	\$944	FY2025	\$824
FY2016	559	FY2026	860
FY2017	583	FY2027	898
FY2018	609	FY2028	938
FY2019	636	FY2029	979
FY2020	664	FY2030	1,023
FY2021	693	FY2031	1,068
FY2022	724	FY2032	1,115
FY2023	756	FY2033	1,164
FY2024	789	FY2034	1,215

\* Note: Projected revenue rounded to thousands.

### Interest Earnings

Interest earnings on the City's reserve funds were calculated based on interest rates of 0.5% or less in 2015. The assumed annual interest rates were increased over time until each reached 1.5% in FY2021. HDR and the City held the assumed interest rate at 1.5% annually thereafter.

### Reserve Funds

For its minimum reserve fund balance, the City targets 90 days of projected annual O&M costs, plus \$2 million of emergency reserves. Based on the analysis and assumptions contained in this memorandum, the City will meet this reserve target for the duration of the projection period.

## Summary Results from the Water Financial Plan

Based on the revenue requirements described above, less non-rate revenues and SDCs, HDR calculated the rate revenue adjustments that meet the City's goals, while meeting all of the needs of the water utility's operations and capital infrastructure. For the purposes of this memorandum and potential adoption by the City Council, only the next five years of rate revenue adjustments are presented in this section.

### Scenario 3 – Rate Hike in 2015; cash financing future CIP

Summaries of the annual water rate revenue adjustments and example customer impacts for this scenario are shown in Table 5.

Table 5: Summary of Customer Impacts – Scenario 2

Description	Current	Fiscal Year Ending				
		2015	2016	2017	2018	2019
Rate Adj.		10.50%	3.25%	3.25%	3.25%	3.25%
Monthly Bill	\$45.92	\$50.74	\$52.39	\$54.09	\$55.85	\$57.67
Bill Increase		4.82	1.65	1.70	1.76	1.82

Table 6 presents a summary of the water revenue requirements (sources and uses of funds). The first five years of the projection period are shown so that the new bond issues could be

presented. The rate revenue presented in Table 6 includes the proposed annual water rate revenue adjustments shown in Table 5.

**Table 6: Scenario 2 Summary of Revenue Requirements Analysis** (millions)

	Fiscal Year Ending				
	2015	2016	2017	2018	2019
<b>Sources of Funds</b>					
Rate Revenue	\$17.4	\$18.7	\$19.3	\$20.0	\$20.7
Non-Rate Rev. & SDCs	1.2	0.8	0.8	0.8	0.9
New Bond Issues	38.4	0.0	0.0	0.0	0.0
Spending Reserves	36.9	21.9	0.0	0.0	1.9
<b>Total Sources</b>	<b>\$94.0</b>	<b>\$41.4</b>	<b>\$20.1</b>	<b>\$20.9</b>	<b>\$23.5</b>
<b>Uses of Funds</b>					
Capital Improvements	\$75.6	\$25.7	\$2.1	\$2.1	\$6.8
Debt Repayments	5.4	6.6	9.2	9.2	9.2
Debt Issuance Costs	4.6	0.0	0.0	0.0	0.0
O&M Expenses	8.4	9.0	6.9	7.2	7.4
Increasing Reserves	0.0	0.0	1.9	2.4	0.0
<b>Total Uses</b>	<b>\$94.0</b>	<b>\$41.4</b>	<b>\$20.1</b>	<b>\$20.9</b>	<b>\$23.5</b>

## Scenario Comparison

HDR developed three alternative rate revenue impact scenarios.

1. **Smoothed Rate Impact** – This scenario is based on the City’s capital projects to identify optimal amounts of new debt and rates to pay for projects while minimizing short-term rate impacts to the City’s customers.
2. **One-Time Rate Hike in 2015** – The City requested an analysis of the water financial forecast given a large rate adjustment in 2015, and holding future annual rate adjustments to approximately 2% or less.
3. **One-Time Rate Hike in 2015; no additional debt issuances after 2015** – The Council requested an analysis of the water financial forecast given a large rate adjustment in 2015, a large debt issuance in 2015 to finish the work of the Lake Oswego-Tigard Water Partnership, and 100% cash-financing future planned capital improvements.

In each of these scenarios, HDR used its utility financial planning model to calibrate each scenario to the lowest rate revenue adjustments possible to meet reserve fund balance targets and DSC targets. The results of the three financial forecasts listed above are included in Table 7 (next page). For each scenario, Table 7 presents the overall rate revenue adjustments for the next 5 years and the impacts that those adjustments have on an example single-family residential bill.<sup>6,7</sup>

<sup>6</sup> Rate adjustment percentage is the required overall average adjustment to total rate revenue from all customers.

<sup>7</sup> Example bill assumes monthly billing and 700 cubic feet of water consumed per month.

Table 7: Rate Adjustments and Bill Impacts by CIP Scenario

Year	Smoothed Rates		2015 Rate Hike		Future Cash Financing	
	Adj.	Ex. Bill	Adj.	Ex. Bill	Adj.	Ex. Bill
Current		\$45.92		\$45.92		\$45.92
FY2015	5.30%	48.35	10.50%	50.74	10.50%	50.74
FY2016	5.30%	50.92	2.00%	51.76	3.25%	52.39
FY2017	5.30%	53.62	2.00%	52.79	3.25%	54.09
FY2018	2.00%	54.69	2.00%	53.85	3.25%	55.85
FY2019	2.00%	55.78	2.00%	54.92	3.25%	57.67

## Conclusion of the Financial Planning Analysis

Many assumptions are employed in an analysis like this. For this reason, results are not concrete in nature but are necessarily estimates. However, based on the assumptions and results of this analysis, HDR determined that the City could meet all of its water utility financial targets with either annual rate adjustments of 5.3% for the next three years, or a one-time rate hike of approximately 10.5% in FY2015. From FY2018 and beyond, annual rate revenue adjustments could be minimal or intermittent under the assumptions included in this analysis. HDR and the City view this scenario as a very positive development for the City's existing and future water customers.

## Recommendations

The City should continue to take great care to mitigate risk by following prudent management practices. This includes reviewing rates and revenues annually to see if additional adjustments are necessary. The City should give special attention to its water rates and revenue requirements once it completes the change in governance and costs from a water purchaser to an operator of a water treatment plant. When the City is off the Portland system and operating the Partnership facilities, it should consider undertaking another comprehensive rate study.